Applicant:

Adams et al.

For:

A Filter System With Reduced Switch Thermal Noise

and a $\Sigma\Delta$ Modulator Using Such a Filter

ABSTRACT OF DISCLOSURE

A filter system with reduced switch thermal noise includes an input circuit for receiving an input signal and a feedback signal and providing a signal representative of the difference; a filter circuit including at least an input sampling capacitor and switch which introduce thermal noise error; a feedback circuit responsive to the filter circuit for delivering to the input circuit the feedback signal; the input circuit also amplifying the difference signal before it is submitted to the filter circuit to reduce the input-referred thermal noise by a factor of approximately the gain of the amplification; and a $\Sigma\Delta$ modulator using such a filter.